

Environmental Protection Agency

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APPENDIX XII TO PART 86—TABLES FOR PRODUCTION COMPLIANCE AUDITING OF HEAVY-DUTY ENGINES AND HEAVY-DUTY VEHICLES, INCLUDING LIGHT-DUTY TRUCKS

TABLE 1—COMPLIANCE LEVEL DETERMINATION USING THE PRIMARY PCA SAMPLING PLAN

| | Compliance level ² |
|------------------------------------|-------------------------------|
| PCA test sample size. ¹ | |
| 24 | 15 |
| 25 | 15 |
| 26 | 16 |
| 27 | 17 |
| 28 | 17 |
| 29 | 18 |
| 30 | 18 |
| 31 | 19 |
| 32 | 20 |
| 33 | 20 |
| 34 | 21 |
| 35 | 21 |
| 36 | 22 |
| 37 | 23 |
| 38 | 23 |
| 39 | 24 |
| 40 | 24 |
| 41 | 25 |
| 42 | 26 |
| 43 | 26 |
| 44 | 27 |
| 45 | 27 |
| 46 | 28 |
| 47 | 29 |
| 48 | 29 |
| 49 | 30 |
| 50 | 30 |
| 51 | 31 |
| 52 | 32 |
| 53 | 32 |
| 54 | 33 |
| 55 | 33 |
| 56 | 34 |
| 57 | 35 |
| 58 | 35 |
| 59 | 36 |
| 60 | 36 |

¹ Including the number of SEA tests if applicable.
² Is the test result of the sequence number: (The lowest test result is sequence No. 1).

TABLE 2—VALUES OF K FOR THE REDUCED FIXED PCA SAMPLING PLAN

| | Value of K |
|--------------|------------|
| Sample size: | |
| 3 | 1.602 |
| 4 | 1.114 |
| 5 | 0.895 |
| 6 | 0.764 |
| 7 | 0.674 |
| 8 | 0.608 |
| 9 | 0.555 |
| 10 | 0.513 |
| 11 | 0.478 |
| 12 | 0.448 |
| 13 | 0.422 |
| 14 | 0.399 |
| 15 | 0.379 |

TABLE 2—VALUES OF K FOR THE REDUCED FIXED PCA SAMPLING PLAN—Continued

| | Value of K |
|----------|------------|
| 16 | 0.360 |
| 17 | 0.343 |
| 18 | 0.328 |
| 19 | 0.314 |
| 20 | 0.301 |
| 21 | 0.289 |
| 22 | 0.277 |
| 23 | 0.266 |

TABLE 3—VALUES OF K FOR THE REDUCED SEQUENTIAL PCA SAMPLING PLAN

| | Value of K |
|--------------|------------|
| Sample size: | |
| 4 | 1.671 |
| 8 | 0.912 |
| 12 | 0.672 |
| 16 | 0.540 |
| 20 | 0.451 |

[50 FR 35401, Aug. 30, 1985]

APPENDIX XIII TO PART 86—STATE REQUIREMENTS INCORPORATED BY REFERENCE IN PART 86 OF THE CODE OF FEDERAL REGULATIONS

The following is an informational list of the California regulatory requirements applicable to the National Low Emission Vehicle program (October, 1996) incorporated by reference in part 86 of the Code of Federal Regulations (see § 86.1).

CALIFORNIA STATE REGULATIONS

(a) State of California; Air Resources Board: California Assembly-Line Test Procedures for 1983 Through 1997 Model-Year Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles, adopted November 24, 1981, amended June 24, 1996.

(b) State of California; Air Resources Board: California Assembly-Line Test Procedures for 1998 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles, adopted June 24, 1996.

(c) California Code of Regulations, Title 13, Division 3, Sections 2108, 2109, 2110.

(d) State of California; Air Resources Board: California Exhaust Emission Standards and Test Procedures for 1988 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles, adopted May 20, 1987, amended June 24, 1996, Section 9.a.

(e) State of California; Air Resources Board: California Non-Methane Organic Gas Test Procedures, adopted July 12, 1991, amended June 24, 1996.

(f) State of California; Air Resources Board: Regulations Regarding Malfunction and Diagnostic System Requirements—1994

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and Later Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles and Engines (OBD II), California Mail Out #95-34, September 26, 1995, excluding paragraphs (d), (m)(4), and (m)(5).

(g) State of California; Air Resources Board: California Motor Vehicle Emission Control Label Specifications, adopted March 1, 1978, amended June 24, 1996, excluding paragraphs 2(b), 3.5, and 10.

[62 FR 31264, June 6, 1997]

APPENDIX XIV TO PART 86—DETERMINATION OF ACCEPTABLE DURABILITY TEST SCHEDULE FOR LIGHT-DUTY VEHICLES AND LIGHT LIGHT-DUTY TRUCKS CERTIFYING TO THE PROVISIONS OF PART 86, SUBPART R

A manufacturer may determine mileage test intervals for durability-data vehicles subject to the conditions specified in §86.1726. The following procedure shall be used to determine if the schedule is acceptable to the Administrator:

1. Select exhaust system mileage test points and maintenance mileage test points for proposed (prop) schedule.

2. Calculate the sums of the squares corrected to the mean of the system mileages at the proposed test points:

$$A_{\text{prop}} = [\sum (X_p)^2 - ((\sum X_p)^2 / N_p)]_{\text{prop}}$$

Where:

X_p = Individual mileages at which the vehicle will be tested.

N_p = Total number of tests (including before and after maintenance tests).

(Subscript “p” refers to proposed test schedule).

3. Determine exhaust system mileage test points and maintenance mileage test points based on testing at five thousand mile intervals from 5,000 miles through the final testing point and maintenance mileage test points selected for the proposed schedule in step 1 of this appendix. This schedule will be designated as the standard (std) test schedule.

4. Calculate the sums of squares corrected to the mean of the standard schedule:

$$B_{\text{std}} = [\sum (X_s)^2 - ((\sum X_s)^2 / N_s)]_{\text{std}}$$

Where:

X_s = Individual mileages at which the vehicle will be tested.

N_s = Total number of tests (including before and after maintenance).

(Subscript “s” refers to standard test schedule).

5. Refer to table I and determine t_p at $(N_p - 2)_{\text{prop}}$ degrees of freedom and t_s at $(N_s - 2)_{\text{std}}$.

6. If $(A_{\text{prop}})^{1/2} \geq t_p / t_s \times (B_{\text{std}})^{1/2}$ the proposed plan is acceptable.

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TABLE I TO APPENDIX XIV

| Degrees of freedom (N–2) | t |
|--------------------------|-------|
| 1 | 6.314 |
| 2 | 2.920 |
| 3 | 2.353 |
| 4 | 2.132 |
| 5 | 2.015 |
| 6 | 1.943 |
| 7 | 1.895 |
| 8 | 1.860 |
| 9 | 1.833 |
| 10 | 1.812 |
| 11 | 1.796 |
| 12 | 1.782 |
| 13 | 1.771 |
| 14 | 1.761 |
| 15 | 1.753 |
| 16 | 1.746 |
| 17 | 1.740 |
| 18 | 1.734 |
| 19 | 1.729 |
| 20 | 1.725 |
| 21 | 1.721 |
| 22 | 1.717 |
| 23 | 1.714 |
| 24 | 1.711 |
| 25 | 1.708 |

[62 FR 31264, June 6, 1997]

APPENDIX XV TO PART 86—PROCEDURE FOR DETERMINING AN ACCEPTABLE EXHAUST REGENERATION DURABILITY-DATA TEST SCHEDULE FOR DIESEL CYCLE VEHICLES EQUIPPED WITH PERIODICALLY REGENERATING TRAP OXIDIZER SYSTEMS CERTIFYING TO THE PROVISIONS OF PART 86, SUBPART R

1. Select exhaust system mileage test points for proposed (prop) schedule.

2. Calculate the sums of the squares corrected to the mean of the system mileages at the proposed test points:

$$A_{\text{prop}} = [\sum (X_p)^2 - ((\sum X_p)^2 / N_p)]_{\text{prop}}$$

Where:

X_p = Individual mileages at which the vehicle will be tested.

N_p = Total number of tests (including before and after maintenance tests).

(Subscript “p” refers to proposed test schedule).

3. The exhaust system mileage tests points at 5,000, 25,000, 50,000, 75,000, and 100,000 miles will be designated as the standard (std) test schedule.

4. Calculate the sums of square corrected to the mean of the standard tests schedule:

$$B_{\text{std}} = [\sum (X_s)^2 - ((\sum X_s)^2 / N_s)]_{\text{std}}$$

Where:

X_s = Individual mileages at which the vehicle will be tested.